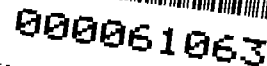




Rocky Flats Environmental Technology Site  
P.O. Box 464  
Golden, Colorado 80402-0464  
Phone: (303) 966-2678  
Fax: (303) 966-8244



OUTGONG LTR NO.

DOE ORDER # None  
96RF01296

February 29, 1996

96-RF-01296  
96-RM-ER-0031-SSOC

[illegible]

Henrick B. Padron  
Safe Sites of Colorado/LATA  
P.O. Box 464, Bldg. 881  
Golden, Colorado 80402-0464

**DRAIN IDENTIFICATION STUDY INSPECTION OF BUILDINGS 447 AND 448 DRAIN SYSTEM – JEL-029-96**

The National Pollutant Discharge Elimination System/Federal Facilities Compliance Agreement between the Environmental Protection Agency and the Department of Energy/Rocky Flats Field Office requires Rocky Flats Environmental Technology Site (Site) to “review foundation footing drains where hazardous materials could be introduced into the sanitary sewer system” and to “review other possible sources of hazardous or otherwise inappropriate influents to the sanitary sewer system.” The Drain Identification Study (DIS) project was developed to address these requirements by inspecting drain systems in buildings throughout the Site. The DIS is an internal assessment developed to minimize potential Clean Water Act violations by revealing possible pathways for inadvertent or inappropriate release of hazardous substances to the sanitary sewer system.

In general, all drains should be labeled per Site Engineering Standard SX-164 and should be dye tested to ensure proper labeling; refer to the Dye Test Report for appropriate labeling. If necessary, Rocky Mountain Remediation Service's (RMRS) Sitewide Surface Water can provide additional services, such as dye testing, through the end of FY96.

DIS personnel performed inspections of Buildings 447 and 448 drainage systems and identified several potential risks to the sanitary sewer system. The attached documents provide a room-by-room summary of the DIS inspections: (1) a Drains and Pathways Inspection Report listing each room and the observations made, (2) a Dye Test Report listing each observed drain and the drain's dye test status, (3) and a building drawing outlining the observations. DIS observations were current as of the inspection dates and can be found in the attached documents. Actions to protect against inadvertent releases to the environment or to the sanitary waste system are recommended. A summary listing the inspector's concerns is provided in Attachment 1.

**AUTHORIZED CLASSIFIER  
SIGNATURE**

**DOCUMENT CLASSIFICATION**

**REVIEW WAIVER PER**

**CLASSIFICATION OFFICE**

DATE \_\_\_\_\_

IN REPLY TO RFP CC NO:

NA

### ACTION ITEM STATUS

☐ OPEN     ☒ CLOSED

☐ PARTIAL

**LTR APPROVALS:**

22.015.F

ADMIN RECCRD

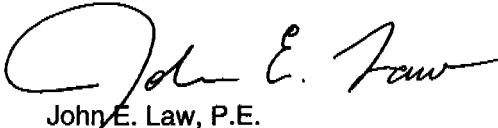
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1 / ORIG & TYPIST INITIALS:

Henrick B. Padron  
February 29, 1996  
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If you have any questions or need additional information, call Frank Rukavina at extension 7370/D5323 or Doug Watson at extension 2143/D0876.



John E. Law, P.E.  
Remediation Manager  
Sitewide Actions  
RMRS, L.L.C.

DRW:dqf

Attachments:  
As Stated

cc:

G. H. Setlock	-	Kaiser-Hill	-	Bldg. T130C
D. B. Martin	-	SSOC	-	Bldg. 444
D. H. Nicholls	-	SSOC	-	Bldg. 460
F. Payan	-	SSOC	-	Bldg. 460
J. F. Ross	-	SSOC	-	Bldg. 865
P. S. Weis	-	SSOC	-	Bldg. 444

## ATTACHMENT 1

### DIS - 1. Drains to sanitary and environment within a CA

Room #402 has a toilet that was determined, by dye testing, to flow to the sanitary Waste Water Treatment Plant (WWTP). Room #503 has an Unlabeled Floor Drain (ULFLDR) that was determined by dye testing to flow to the storm water drainage. These drains provide a direct path from the CA to the sanitary WWTP and the outside environment and both should be immediately Locked Out and Tagged Out (LO/TO) and removed from service.

### DIS - 2. Ensuring decommissioned drains

During the initial inspections and dye testing, building personnel outlined which drains were to be dye tested and which were to be decommissioned per the Plant Action Tracking System (PATS) #93-000921. The drain systems in Rooms #31, 31A, 401, 401A, 402, 403, 405, 406A, 407, 420A, 420B, & 501 were to be decommissioned and were not dye tested. The following is a list of room #'s with drains that were scheduled for being decommissioned: Rm 31, Unlabeled (UL) Sump #2; Rm 31A, 3 Process Waste (PW) Sumps; Rm 401, UL Sump; Rm 401A, UL Water Fountain (WF); Rm 402, 2 PW Sinks; Rm 403, UL Sump; Rm 405, UL Sump and an ULFLDR; Rm 406A, PW Sump; Rm 407, PW Sink; Rm 420A, PW Sump; Rm 420B, UL Sump and 4 Open Pipes; Rm 501, PW Sink and 2 PWFLDR's. These drain systems should be dye tested prior to being placed in service.

### DIS - 3. Integrity of seal around drain

Room #408B appears to have an old ULFLDR that was capped and partially sealed; the integrity of the seal around the capped drain should be verified to prevent possible contamination of the Waste Water Treatment Plant or the foundation sub-surface/groundwater.

### DIS - 4. Labeling drains per RFETS Eng Std SX-164

Drains that have been dye tested should be labeled per RFETS Eng Std SX-164, see the attached Dye Test Report for reference. Process Waste and Unlabeled Drains that have not been dye tested should be dye tested and then labeling per RFETS Eng Std SX-164.

### DIS - 5. Floor cracks and penetrations

Floor cracks and penetrations within a CA could lead to contamination of the foundation sub-surface/groundwater. Rooms with floor cracks and floor penetrations are noted on the Inspection Report.

### DIS - 6. Berming

Contamination Area (CA) perimeter doors that provide a direct path from a CA to a non-CA should be bermed.

### DIS - 7. Areas not inspected

The DIS did not include areas where access was denied or rooms that were listed as Anti-C, SBA or SCBA. Rooms not entered are noted on the Inspection Report and the Building Floorplans.

# **DRAINS and PATHWAYS** INSPECTION REPORT BUILDING 447

2/13/96

Inspector	Date	Room #	* RCA	Drain	SS Sinks	PW Sinks	UL Sinks	SS FLDR	PW FLDR	UL FLDR	SS Sumps	PW Sumps	UL Sumps	Open Pipe	Funnel Drain	WF	Comments	FL PEN	FL Cracks	Trenches / Pits	Comments/Recommendations
B Hayes	19-Jan-93	031		Y	Yes								2				Task 2 above FL fed by DCW, jumped in cooling water return - Roll Filter drains to PW Sump - PW Sump flows to Run 1 - PW Sump is UL		yes		Pit is a scale
B Hayes	19-Jan-93	031	A	Y	Yes							3					Anti-C entry only - Run not entered for safety reasons see log sheets			yes	Run not entered for safety reasons - see log sheets
DR Watson	27-Jan-93	032		Y	*												Anti-C entry only - Run not entered for safety reasons see log sheets				Run not entered for safety reasons - see log sheets
DR Watson	27-Jan-93	033		Y	*												Anti-C entry only - Run not entered for safety reasons see log sheets				Run not entered for safety reasons - see log sheets
DR Watson	27-Jan-93	033	A	Y	*												Anti-C entry only - Run not entered for safety reasons see log sheets				Run not entered for safety reasons - see log sheets
DR Watson	27-Jan-93	034		Y	*												Anti-C entry only - Run not entered for safety reasons see log sheets				Run not entered for safety reasons - see log sheets
DR Watson	27-Jan-93	034	A	Y	*												Anti-C entry only - Run not entered for safety reasons see log sheets				Run not entered for safety reasons - see log sheets
DR Watson	27-Jan-93	035		Y	*												Anti-C entry only - Run not entered for safety reasons see log sheets				Run not entered for safety reasons - see log sheets
B Hayes	19-Jan-93	036		Y	no												directly under 406 & 406B & accessed through 406B				
B Hayes	19-Jan-93	401		Y	Yes	1							1				UL Sump, Traced Line to PW	yes			FI PEN is an open sump
B Hayes	19-Jan-93	401	A	Y	Yes												UL WF & drains to Run 401 sump				
B Hayes	19-Jan-93	402		Y	Yes	2											MRR - 2 orinals (not labeled), 2 scillets (labeled SS)				MRR
B Hayes	19-Jan-93	403		Y	Yes												UL Sump, Traced Line to PW	yes		yes	
B Hayes	19-Jan-93	404		Y	no																
B Hayes	19-Jan-93	405		Y	Yes												UL Sump located in pit and is PW per building personnel - pit is confined space entry and considered contaminated			yes	Large pit in center of Run for heaters in arc melt furnace
B Hayes	19-Jan-93	405	A	Y	no																
B Hayes	19-Jan-93	405	B	Y	Yes												UL Sump, piping labeled PW		yes	yes	Utility trench and pit for arc melt furnace
B Hayes	19-Jan-93	406		Y	Yes												UL Sump, Traced Line from dye testing listed as stairwell to Run 31 - PW Sump located in stairwell			yes	Utility trench
B Hayes	19-Jan-93	406	A	Y	Yes												Ultra sonic reuse shits			yes	Hinged lid to Run 36 on FI of Run 406B
B Hayes	19-Jan-93	407		Y	Yes	1															
B Hayes	19-Jan-93	407	H	Y	no																
B Hayes	19-Jan-93	408		Y	no																
B Hayes	19-Jan-93	408	A	Y	no																
B Hayes	19-Jan-93	408	B	Y	Yes												ULFLDR appears to be sealed inadequately				Walls not sealed
B Hayes	19-Jan-93	409		Y	no																
B Hayes	19-Jan-93	410		Y	no																
B Hayes	19-Jan-93	410	A	Y	no												Run 410, 410A, 411 are all the same Run			yes	8 doors are from the 3 rooms combined - 2 pits by loading door
B Hayes	19-Jan-93	411		Y	no																
B Hayes	19-Jan-93	412		Y	no																
B Hayes	19-Jan-93	413		Y	no												Sealed manhole				Manhole sealed
B Hayes	19-Jan-93	414		Y	no																
B Hayes	19-Jan-93	414		Y	no																
B Hayes	19-Jan-93	415		Y	no																
DR Watson	11-Feb-93	415	n	no													Accessed through the outside of the building				Accessed through the outside of the building
B Hayes	19-Jan-93	420		Y	no																
B Hayes	19-Jan-93	420	A	Y	Yes							1					Open pipes drain to the UL Sump - the UL Sump was traced to PW	yes			
B Hayes	19-Jan-93	420	B	Y	Yes								1	4							
B Hayes	19-Jan-93	501		Y	Yes	1											Anti-C entry only - Run not entered for safety reasons see log sheets	yes			Several PIPEN's
DR Watson	22-Jan-93	502		Y	*												FI DR on intake side - FI DR labeled process, concentered in	yes			Anti-C entry only - manhole goes to Run 31 - Run not entered for safety reasons - see log sheets
B Hayes	19-Jan-93	503		Y	Yes												Standing water in bottom of pit - Elevator device to UL Sump located outside the elevator under the stairway per V. Luero				Pitman
DR Watson	22-Jan-93	elevator	3	Y																	Standing water in bottom of pit
<b>Drains Accounted For</b>						0	5	4	0	3	3	0	5	8	4	0	1				
<b>Total Drains Accounted For</b>																					
						33															

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# Dye Test Report

Attachment #3  
96-RF-01296  
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**Building 447**

Room #	"	RCA	Test Date	Drain Type	Drain #	Injection Time	Verification Time A	Verification Time B	SS / PW	Comments/Location
031		y	3-Nov-93	UL Sump	1	10:08	10:24		PW	Flows to PW tank T4 in south east corner of Rm #1
031		y		UL Sump	2					Sump not tested per PATS commitment # 93-000921
031	A	y		PW Sump	1					Per discussions with building personnel drains are not being used and recommendations were not to dye test
031	A	y		PW Sump	2					Per discussions with building personnel drains are not being used and recommendations were not to dye test
031	A	y		PW Sump	3					Per discussions with building personnel drains are not being used and recommendations were not to dye test
401		y		PW Sink						Per discussions with building personnel drains are not being used and recommendations were not to dye test
401		y		UL Sump						Sump not tested per PATS commitment # 93-000921
401	A	y		UL WF						WF not tested per PATS commitment # 93-000921
402		y		PW Sink	1					Per discussions with building personnel drains are not being used and recommendations were not to dye test
402		y		PW Sink	2					Per discussions with building personnel drains are not being used and recommendations were not to dye test
402		y	29-Apr-93	toilet		10:15	10:19	10:20	SS	Poured dye into toilet - spotted dye at manhole (MH) east of Bldg. 460 (Ver. Time A) - Spotted dye in MH north of Bldg. 444 (Ver. Time B) - Spotted at 990 diversion box (Ver. Time C)
403		y		UL Sump						Sump not tested per PATS commitment # 93-000921
405		y		UL Sump						Sump not tested per PATS commitment # 93-000921
405		y		ULFLDR						ULFLDR not tested per PATS commitment # 93-000921
405	B	y	3-Nov-93	UL Sump		10:40	10:41		PW	Flows to the Roll Filter in Rm #31 - the Roll filter drains into the tank pumped by the UL Sump in Rm #31
406		y	1-Nov-93	UL Sump		11:01	12:04		PW	The UL Sinks in Rm 406B are all connected and flow into this UL Sump - the sinks drained slowly
406	A	y		PW Sump						Per discussions with building personnel drains are not being used and recommendations were not to dye test
406	B	y	1-Nov-93	UL Sink	1	11:01	12:04		PW	The UL Sinks 1-4 are all connected and flow into the UL Sump in Rm 406 - tested sink #2 - the sinks drained slowly
406	B	y	1-Nov-93	UL Sink	2	11:01	12:04		PW	The UL Sinks 1-4 are all connected and flow into the UL Sump in Rm 406 - tested sink #2 - the sinks drained slowly
406	B	y	1-Nov-93	UL Sink	3	11:01	12:04		PW	The UL Sinks 1-4 are all connected and flow into the UL Sump in Rm 406 - tested sink #2 - the sinks drained slowly
406	B	y	1-Nov-93	UL Sink	4	11:01	12:04		PW	The UL Sinks 1-4 are all connected and flow into the UL Sump in Rm 406 - tested sink #2 - the sinks drained slowly
407		y		PW Sink						Per discussions with building personnel drains are not being used and recommendations were not to dye test
408	B	y		ULFLDR						ULFLDR appears to be sealed - should be verified

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## Dye Test Report

Building 447

Room #	"	RCA	Test Date	Drain Type	Drain #	Injection Time	Verification Time A	Verification Time B	SS / PW	Comments/Location
420	A	y		PW Sump						Per discussions with building personnel drains are not being used and recommendations were not to dye test
420	B	y		Open Pipe	1					Open pipes drain to the UL Sump in Rm#420B - Sump not tested per PATS commitment # 93-000921
420	B	y		Open Pipe	2					Open pipes drain to the UL Sump in Rm#420B - Sump not tested per PATS commitment # 93-000921
420	B	y		Open Pipe	3					Open pipes drain to the UL Sump in Rm#420B - Sump not tested per PATS commitment # 93-000921
420	B	y		Open Pipe	4					Open pipes drain to the UL Sump in Rm#420B - Sump not tested per PATS commitment # 93-000921
420	B	y		UL Sump						Sump not tested per PATS commitment # 93-000921
501		y		PW Sink						Per discussions with building personnel drains are not being used and recommendations were not to dye test
501		y		PWFLDR	1					Per discussions with building personnel drains are not being used and recommendations were not to dye test
501		y		PWFLDR	2					Per discussions with building personnel drains are not being used and recommendations were not to dye test
503		y		PWFLDR						Drain is sealed and was not dye tested
503			3-Nov-93	ULFLDR		09:15	09:15		STORM DRAIN	Flows out the south outside wall of Bldg. 447 to the storm drainage system

# **DRAINS and PATHWAYS** INSPECTION REPORT BUILDING 448

2/13/96

Inspector	Date	Room #	* RCA	Drain s	SS Sinks	PW Sinks	UL Sinks	SS FLDR	PW FLDR	UL FLDR	SS Sumps	PW Sumps	UL Sumps	Open Pipe	Funnel/ Drain	WF	Comments	FL PEN	FL Cracks	Trenches /Pits	Comments/Recommendations
B Hayes	19-Jan-93	601	y	yes											1		tunnel if above FI appears to be part of fire system	yes	yes		PIPEN is manhole covers SW corner
B Hayes	19-Jan-93	602	y	yes											1		fire line goes to open tunnel in roof drain line		yes		
		<b>Drains Accounted For</b>			0	0	0	0	0	0	0	0	0	0	2	0					
		<b>Total Drains Accounted For</b>			2																

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# **Dye Test Report**

Room #	"	RCA	Test Date	Drain Type	Drain #	Injection Time	Verification Time A	Verification Time B	SS / PW	Comments/Location
601		y		Funnel Drain						Flows directly outside the northwest corner of Bldg 448
602		y		Funnel Drain						Funnel was capped per building personnel (Dave Martin)